

REMARKS

Claims 1-5 remain in the present application as amended. Claim 6 has been cancelled without prejudice or disclaimer of the subject matter contained therein.

First, the Examiner has objected to Figures 1, 2A and 2B and is requiring the Applicant to designate these figures as --Prior Art-- citing MPEP §608.02(g). In response, the Applicant is currently attempting to ascertain whether these figures are or are not, in fact, prior art. However, at the present time, Applicant is unable to respond to the Examiner's request and will promptly file a supplemental response addressing this issue.

With regard to the specification, the undersigned has carefully reviewed the specification and is submitting a substitute specification for the Examiner's consideration. The undersigned confirms that the substitute specification is based on the application as originally filed and no new matter has been added.

Claims 1, 2, 4, 5 and 6 are objected to as containing certain informalities. The various issues noted by the Examiner have been addressed in the amended claims. Reconsideration of this rejection is also respectfully requested.

Also, claim 6 is currently rejected under 35 U.S.C. §112, 2nd Paragraph. Claim 6 has been cancelled without prejudice or disclaimer of the subject matter contained therein.

Claims 1-5 are currently rejected under 35 U.S.C. §103(a) as being unpatentable over Chalmers et al. (U.S. Patent No. 6,172,756) further in view of Horie (U.S. Patent No. 5,440,141). Reconsideration of these rejections as they may apply to the now amended claims is thus respectfully requested.

With regard to claim 1, the application discloses a method including the steps of (1) detecting light intensity as a function of wavelength; (2) thereafter converting the intensity spectrum to one that is a function of a refractive index; and (3) thereafter converting the spectrum from one that depends on the refractive index to one that is a function of layer thickness. In contrast, Chalmers teaches a method by which film measurement is based on obtaining intensity data as a function of wavelength, and then as a function of a refractive index.

Even though Chalmers uses a method in which a refractive index varies in accordance with a variation of the wavelength, the cited reference does not consider refractive index variation. In particular, col. 9, line 42-44 of the cited reference teaches that the refractive index n is defined as a constant. As a result, the method disclosed in Chalmers et al. would inherently have errors that would not occur in the method disclosed in the present application.

Also in contrast to Chalmers et al., the dispersion of the refractive index according to wavelength variation is applied according to the method of the present application. Due to the adoption of refractive index dispersion according to wavelength variation, the results of layer thickness measurement are much more accurate when compared to methods such as Chalmers et al.

For these reasons, it is respectfully submitted that the cited reference fails to set forth a *prima facie* case of obviousness under 35 U.S.C. §103(a).

As to amended claim 2, the Examiner asserts that the cited reference provides the intermediate step of converting the intensity verses wavelength spectrum to an intensity verses refractive index spectrum as recited in the claim. However, Chalmers

et al. teaches the relationship as n/λ . Based on this disclosure, the Examiner asserts that the reference also teaches the relationship as $n(\lambda)/2\lambda$. However, Applicant submits that the relationship between the refractive index and wavelength, as well as the refractive index function, are different. In particular, the method disclosed in the present application adopts the dispersion of refractive index according to variations of wavelength. Thus, the refractive index n in Chalmers et al. is a constant but the refractive index $n(\lambda)$ is a function of wavelength. Since the refractive index, included as part of the function, is not a constant, the results from thickness measurements are much more accurate.

Concerning claim 4, the analysis invented to obtain the layer thickness is similar. However, the refractive index in Chalmers et al. is a constant, as discussed above, dependent on the material and the refractive index in the disclosed method is not dependent on material but dependent on wavelength. Thus, the cited reference is not sufficient to support the current rejection of claim 4.

With regard to claim 5, as repeated above, the differences between the method disclosed in the cited reference and those disclosed in the present application, particularly including the fact that the refractive index (and the use of the refractive index), is different. Reconsideration of the rejection of claim 5 is also respectfully requested.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-6 in connection with the present application is earnestly solicited.


Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) hereby petition(s) for a one (1) month extension of time for filing a reply to the outstanding Office Action and submit the required \$120 extension fee herewith.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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